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<120> Alpha Macroglobin Family Members

<130> P032079WO

<140> PCT/GB03/04500

<141> 2003-10-16

<150> GB0224116.4

<151> 2002-10-16

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Leu Gln

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 35 40 45

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35 40 45
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 35 40 45

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Val Leu Asp Tyr Leu Lys Ser Thr Glu Gln Leu Thr Glu Glu Val Gln
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<212> DNA
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 agagtcagaa aggaagcata tg 82

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35 40 45

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<212> DNA
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35 40 45

Pro Gly Gln Lys Val His Ile Leu Thr Leu Phe Leu Phe Leu Phe Gln
50 55 60

Tyr Pro Val Ile Thr Leu Gln Asp Pro Gln Asn Asn Arg Ile Phe Gln
65 70 75 80

Arg Gln Asn Val Thr Ser Phe Arg Asn Ile Thr Gln Leu Ser Phe Gln
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100 105 110

Asn Ser Arg Glu Thr Val Thr His Gln Phe Ala Val Lys Arg Tyr Val
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 Ser Ser Ser Asn Cys Glu Lys Asn Glu Asn Glu Ile Cys Glu Gln Phe
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 Ile Ala Gln Leu Glu Asn Gly Cys Val Ser Gln Ile Val Asn Thr Lys
 195 200 205
 Val Phe Gln Leu Tyr Arg Ser Gly Leu Phe Met Thr Phe His Val Ala
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 Val Ile Val Thr Glu Ser Gly Thr Val Met Gln Ile Ser Glu Lys Thr
 225 230 235 240
 Ser Val Phe Ile Thr Gln Leu Leu Gly Thr Val Asn Phe Glu Asn Met
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 Asp Thr Phe Tyr Arg Arg Gly Ile Ser Tyr Phe Gly Thr Leu Lys Phe
 260 265 270
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 Ala Gln Phe Ser Ile Asp Thr Ser Asp Ile Phe Asp Pro Glu Phe Asn
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 325 330 335
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 340 345 350
 Ser Arg Thr Asn Ser Phe Leu Lys Ile Val Pro Glu Pro Lys Gln Leu
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 Glu Cys Asn Gln Gln Lys Val Val Thr Val His Tyr Ser Leu Asn Ser
 370 375 380
 Glu Ala Tyr Glu Asp Asp Ser Asn Val Lys Phe Phe Tyr Leu Met Met
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 405 410 415

Ala Trp Asn Gly Asn Phe Ser Phe Pro Ile Ser Ile Ser Ala Asp Leu
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Ala Pro Ala Ala Val Leu Phe Val Tyr Thr Leu His Pro Ser Gly Glu
 435 440 445

Ile Val Ala Asp Ser Val Arg Phe Gln Val Asp Lys Cys Phe Lys His
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Lys Val Asn Ile Lys Phe Ser Asn Glu Gln Gly Leu Pro Gly Ser Asn
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Ala Ser Leu Cys Leu Gln Ala Ala Pro Val Leu Phe Cys Ala Leu Arg
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Ala Val Asp Arg Asn Val Leu Leu Leu Lys Ser Glu Gln Gln Leu Ser
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Ala Glu Ser Val Tyr Asn Met Val Pro Ser Ile Glu Pro Tyr Gly Tyr
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Phe Tyr His Gly Leu Asn Leu Asp Asp Gly Lys Glu Asp Pro Cys Ile
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Pro Gln Arg Asp Met Phe Tyr Asn Gly Leu Tyr Tyr Thr Pro Val Ser
 545 550 555 560

Asn Tyr Gly Asp Gly Asp Ile Tyr Asn Ile Val Arg Asn Met Gly Leu
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Tyr Gly Pro Met Arg Ser Val Pro Ser Arg Ile Ala Cys Arg Gly Glu
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 675 680 685

Thr Thr Thr Leu Glu Val Ser Gln Pro Phe Phe Ile Glu Ile Ala Ser
 690 695 700

Pro Phe Ser Val Val Gln Asn Glu Gln Phe Asp Leu Ile Val Asn Val

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Ser Gln Asn Tyr	Glu Ala Asn Ile	His Thr Leu Lys	Ile Asn Gly Ser			
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Glu Val Ile Gln	Ala Gly Gly Arg	Lys Thr Asn Val	Trp Thr Ile Ile			
	755		760			765
Pro Lys Lys Leu	Gly Lys Val Asn	Ile Thr Val Val	Ala Glu Ser Lys			
	770		775			780
Gln Ser Ser Ala	Cys Pro Asn Glu	Gly Met Glu Gln	Gln Lys Leu Asn			
	785		790			800
Trp Lys Asp Thr	Val Val Gln Ser	Phe Leu Val Glu	Pro Glu Gly Ile			
	805		810			815
Glu Lys Glu Arg	Thr Gln Ser Phe	Leu Ile Cys Thr	Glu Gly Ala Lys			
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Ala Ser Lys Gln	Gly Val Leu Asp	Leu Pro Asn Asp	Val Val Glu Gly			
	835		840			845
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	865		870			880
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	885		890			895
Ser Thr Glu Gln	Leu Thr Glu Glu	Val Gln Ser Lys	Ala Phe Phe Leu			
	900		905			910
Leu Ser Asn Gly	Tyr Gln Arg Gln	Leu Ser Phe Lys	Asn Ser Asp Gly			
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Ser Tyr Ser Val	Phe Trp Gln Gln	Ser Gln Lys Gly	Ser Ile Cys Ala			
	930		935			940
Leu Thr Phe Lys	Thr Leu Glu Arg	Met Lys Lys Tyr	Val Phe Ile Asp			
	945		950			955
Glu Asn Val Gln	Lys Gln Thr Leu	Ile Trp Leu Ser	Ser Ser Gln Gln			Lys
	965		970			975
Thr Ser Gly Cys	Phe Lys Asn Asp	Gly Gln Leu Phe	Asn His Ala Trp			
	980		985			990
Glu Gly Gly Asp	Glu Glu Asp Ile	Ser Leu Thr Ala	Tyr Val Val Gly			
	995		1000			1005

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 Tyr Asn His Ala Ile Leu Ala Tyr Ala Phe Ala Leu Ala Gly Lys Glu
 1045 1050 1055
 Lys Gln Val Glu Ser Leu Leu Gln Thr Leu Asp Gln Ser Ala Pro Lys
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 Leu Asn Asn Val Ile Tyr Trp Glu Arg Glu Arg Lys Pro Lys Thr Glu
 1075 1080 1085
 Glu Phe Pro Ser Phe Ile Pro Trp Ala Pro Ser Ala Gln Thr Glu Lys
 1090 1095 1100
 Ser Cys Tyr Val Leu Leu Ala Val Ile Ser Arg Lys Ile Pro Asp Leu
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 Thr Tyr Ala Ser Lys Ile Val Gln Trp Leu Ala Gln Arg Met Asn Ser
 1125 1130 1135
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 1140 1145 1150
 Ile Thr Arg Tyr Ile Thr Gln Gly Leu Phe Ser Lys Asp Gln Asn Thr
 1155 1160 1165
 Val Thr Phe Ser Ser Glu Gly Ser Ser Glu Ile Phe Gln Val Asn Gly
 1170 1175 1180
 His Asn Arg Leu Leu Val Gln Arg Ser Glu Val Thr Gln Ala Pro Gly
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 Glu Tyr Thr Val Asp Val Glu Gly His Gly Cys Thr Phe Ile Gln Ala
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 Thr Leu Lys Tyr Asn Val Leu Leu Pro Lys Lys Ala Ser Gly Phe Ser
 1220 1225 1230
 Leu Ser Leu Glu Ile Val Lys Asn Tyr Ser Ser Thr Ala Phe Asp Leu
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 Thr Val Thr Leu Lys Tyr Thr Gly Ile Arg Asn Lys Ser Ser Met Val
 1250 1255 1260
 Val Ile Asp Val Lys Met Leu Ser Gly Phe Thr Pro Thr Met Ser Ser
 1265 1270 1275 1280
 Ile Glu Glu Leu Glu Asn Lys Gly Gln Val Met Lys Thr Glu Val Lys
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Asn Asp His Val Leu Phe Tyr Leu Glu Asn Gly Phe Gly Arg Ala Asp
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Ser Phe Pro Phe Ser Val Glu Gln Ser Asn Leu Val Phe Asn Ile Gln
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 <213> Homo sapiens

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<210> 70
 <211> 51
 <212> PRT
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Ala Val Asp Glu Ser Val Leu Leu Arg Pro Asp Arg Glu Leu Ser
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Asn Arg Ser
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 gggcattcga gccagcgttc cattatctgg aggcctctgt tctctgaagg cacggacctt 180
 ttcagctttt tccgg 195

<210> 72
 <211> 65
 <212> PRT
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<400> 72
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 1 5 10 15
 Ala Glu Tyr Asp Gln Cys Pro Val Ser Gly Pro Trp Asp Phe Pro Gln
 20 25 30
 Pro Leu Ile Asp Pro Met Pro Gln Gly His Ser Ser Gln Arg Ser Ile
 35 40 45
 Ile Trp Arg Pro Ser Phe Ser Glu Gly Thr Asp Leu Phe Ser Phe Phe
 50 55 60

Arg
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<210> 73
 <211> 91
 <212> DNA
 <213> Homo sapiens

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 agatctccag aatacagcac tgctatgggt g 91

<210> 74
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 <212> PRT
 <213> Homo sapiens

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 <212> DNA
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 <212> PRT
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Asp Leu Phe Pro Ile Gly
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 <211> 76
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Glu Trp Lys Ala Met Ser Phe Cys Thr Ser Gln Ser Arg Gly Phe Gly
 20 25 30

Leu Ser Pro Thr Val Gly Leu Thr Ala Phe Lys Pro Phe Phe Val Asp
 35 40 45

Leu Thr Leu Pro Tyr Ser Val Val Arg Gly Glu Ser Phe Arg Leu Thr
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Ala Thr Ile Phe Asn Tyr Leu Lys Asp Cys Ile Arg
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 <213> Homo sapiens

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 aaattgg 127

<210> 80
 <211> 43
 <212> PRT
 <213> Homo sapiens

<400> 80

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 1 5 10 15

Ala Asp Ser Gln Thr Ser Ser Cys Leu Cys Ala Asp Asp Ala Lys Thr
 20 25 30

His His Trp Asn Ile Thr Ala Val Lys Leu Gly
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 <212> DNA
 <213> Homo sapiens

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 agaagggggtt tgttcccca aagggccgaa gtgacacgct catcaagcca gttctcgtca 120
 aa 122

<210> 82
 <211> 40
 <212> PRT
 <213> Homo sapiens

<400> 82
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Cys Gly Gly Gln Lys Gly Phe Val Pro Gln Lys Gly Arg Ser Asp Thr
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Leu Ile Lys Pro Val Leu Val Lys
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<210> 83
 <211> 52
 <212> DNA
 <213> Homo sapiens

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<210> 84
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 <212> PRT
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<400> 84
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 1 5 10 15

Lys Gly

<210> 85

<211> 84
 <212> DNA
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<400> 85
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 ccaaggctta tgttacgggt ctgg 84

<210> 86
 <211> 28
 <212> PRT
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<400> 86
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Pro Asp Ser Thr Lys Ala Tyr Val Thr Val Leu Gly
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 gtggcgagca gaacatggtc ttgtttgctc ccatcatcta tgtcttgag tacctggaga 120
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<210> 88
 <211> 59
 <212> PRT
 <213> Homo sapiens

<400> 88
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 1 5 10 15

Pro Ser Gly Cys Gly Glu Gln Asn Met Val Leu Phe Ala Pro Ile Ile
 20 25 30

Tyr Val Leu Gln Tyr Leu Glu Lys Ala Gly Leu Leu Thr Glu Glu Ile
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Arg Ser Arg Ala Val Gly Phe Leu Glu Ile Gly
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<210> 89
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<400> 89
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<210> 90

<211> 27

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<213> Homo sapiens

<400> 90

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<211> 157

<212> DNA

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<400> 91

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tgccaacgtg ggaaatctcc ttcacacagc tatgaag 157

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<211> 52

<212> PRT

<213> Homo sapiens

<400> 92

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Asn Gln Leu Pro Ser Gly Cys Tyr Ala Asn Val Gly Asn Leu Leu His
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Thr Ala Met Lys
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<211> 75

<212> DNA

<213> Homo sapiens

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<211> 25

<212> PRT

<213> Homo sapiens

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Leu Leu Glu Met Gly Lys Asp Val Asp
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 <212> DNA
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 aacattctcc ttaaacagtt agatcaacag gctatcatct cag 163

<210> 96
 <211> 55
 <212> PRT
 <213> Homo sapiens

<400> 96
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 20 25 30

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 35 40 45

Gln Gln Ala Ile Ile Ser Gly
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<210> 97
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 aacacaatgc atatgggggc ttctcttcta cttag 215

<210> 98
 <211> 71
 <212> PRT
 <213> Homo sapiens

<400> 98
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 20 25 30

Leu Leu Ala Gln Leu Thr Lys Pro Ser Leu Thr Gln Lys Glu Ile Ala
 35 40 45

Lys Ala Thr Ser Ile Val Ala Trp Leu Ala Lys Gln His Asn Ala Tyr
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Gly Gly Phe Ser Ser Thr Gln
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 tcagttaaca gattgggtatt tcagcaggat accctgcca atgtccctgg aatgtacacg 180
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<210> 100
 <211> 72
 <212> PRT
 <213> Homo sapiens

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 Asp Thr Val Val Ala Leu Gln Ala Leu Ala Lys Tyr Ala Thr Thr Ala
 1 5 10 15

Tyr Met Pro Ser Glu Glu Ile Asn Leu Val Val Lys Ser Thr Glu Asn
 20 25 30

Phe Gln Arg Thr Phe Asn Ile Gln Ser Val Asn Arg Leu Val Phe Gln
 35 40 45

Gln Asp Thr Leu Pro Asn Val Pro Gly Met Tyr Thr Leu Glu Ala Ser
 50 55 60

Gly Gln Gly Cys Val Tyr Val Gln
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<210> 101
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 <213> Homo sapiens

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<210> 102
 <211> 43
 <212> PRT
 <213> Homo sapiens

<400> 102
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 20 25 30
 Pro Arg Ser Leu Thr Leu Thr Ile His Thr Ser
 35 40

<210> 103
 <211> 91
 <212> DNA
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<210> 104
 <211> 30
 <212> PRT
 <213> Homo sapiens

<400> 104
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 1 5 10 15
 Met Leu Ser Gly Phe Ser Pro Met Glu Gly Thr Asn Gln Leu
 20 25 30

<210> 105
 <211> 69
 <212> DNA
 <213> Homo sapiens

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<210> 106
 <211> 23
 <212> PRT
 <213> Homo sapiens

<400> 106
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 Leu Asn Ile Tyr Leu Asp Glu

20

<210> 107
 <211> 103
 <212> DNA
 <213> Homo sapiens

<400> 107
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 ttgaaaccag caaccatcaa ggtctatgac tactacctac cag 103

<210> 108
 <211> 35
 <212> PRT
 <213> Homo sapiens

<400> 108
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Leu Val Thr Asn Leu Lys Pro Ala Thr Ile Lys Val Tyr Asp Tyr Tyr
 20 25 30

Leu Pro Asp
 35

<210> 109
 <211> 41
 <212> DNA
 <213> Homo sapiens

<400> 109
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<210> 110
 <211> 12
 <212> PRT
 <213> Homo sapiens

<400> 110
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<210> 111
 <211> 2685
 <212> DNA
 <213> Homo sapiens

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<210> 112
<211> 894
<212> PRT
<213> Homo sapiens

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20          25          30

Ala Val Asp Glu Ser Val Leu Leu Arg Pro Asp Arg Glu Leu Ser
35          40          45

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Asn Arg Ser Val Tyr Gly Met Phe Pro Phe Trp Tyr Gly His Tyr Pro
 50 55 60
 Tyr Gln Val Ala Glu Tyr Asp Gln Cys Pro Val Ser Gly Pro Trp Asp
 65 70 75 80
 Phe Pro Gln Pro Leu Ile Asp Pro Met Pro Gln Gly His Ser Ser Gln
 85 90 95
 Arg Ser Ile Ile Trp Arg Pro Ser Phe Ser Glu Gly Thr Asp Leu Phe
 100 105 110
 Ser Phe Phe Arg Asp Val Gly Leu Lys Ile Leu Ser Asn Ala Lys Ile
 115 120 125
 Lys Lys Pro Val Asp Cys Ser His Arg Ser Pro Glu Tyr Ser Thr Ala
 130 135 140
 Met Gly Ala Gly Gly Gly His Pro Glu Ala Phe Glu Ser Ser Thr Pro
 145 150 155 160
 Leu His Gln Ala Glu Asp Ser Gln Val Arg Gln Tyr Phe Pro Glu Thr
 165 170 175
 Trp Leu Trp Asp Leu Phe Pro Ile Gly Asn Ser Gly Lys Glu Ala Val
 180 185 190
 His Val Thr Val Pro Asp Ala Ile Thr Glu Trp Lys Ala Met Ser Phe
 195 200 205
 Cys Thr Ser Gln Ser Arg Gly Phe Gly Leu Ser Pro Thr Val Gly Leu
 210 215 220
 Thr Ala Phe Lys Pro Phe Phe Val Asp Leu Thr Leu Pro Tyr Ser Val
 225 230 235 240
 Val Arg Gly Glu Ser Phe Arg Leu Thr Ala Thr Ile Phe Asn Tyr Leu
 245 250 255
 Lys Asp Cys Ile Arg Val Gln Thr Asp Leu Ala Lys Ser His Glu Tyr
 260 265 270
 Gln Leu Glu Ser Trp Ala Asp Ser Gln Thr Ser Ser Cys Leu Cys Ala
 275 280 285
 Asp Asp Ala Lys Thr His His Trp Asn Ile Thr Ala Val Lys Leu Gly
 290 295 300
 His Ile Asn Phe Thr Ile Ser Thr Lys Ile Leu Asp Ser Asn Glu Pro
 305 310 315 320
 Cys Gly Gly Gln Lys Gly Phe Val Pro Gln Lys Gly Arg Ser Asp Thr
 325 330 335
 Leu Ile Lys Pro Val Leu Val Lys Pro Glu Gly Val Leu Val Glu Lys

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Thr	His	Ser	Ser	Leu	Leu	Cys	Pro	Lys	Gly	Lys	Val	Ala	Ser	Glu	Ser
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Val	Ser	Leu	Glu	Leu	Pro	Val	Asp	Ile	Val	Pro	Asp	Ser	Thr	Lys	Ala
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Tyr	Val	Thr	Val	Leu	Gly	Asp	Ile	Met	Gly	Thr	Ala	Leu	Gln	Asn	Leu
385					390					395					400
Asp	Gly	Leu	Val	Gln	Met	Pro	Ser	Gly	Cys	Gly	Glu	Gln	Asn	Met	Val
				405					410					415	
Leu	Phe	Ala	Pro	Ile	Ile	Tyr	Val	Leu	Gln	Tyr	Leu	Glu	Lys	Ala	Gly
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Leu	Leu	Thr	Glu	Glu	Ile	Arg	Ser	Arg	Ala	Val	Gly	Phe	Leu	Glu	Ile
		435					440					445			
Gly	Tyr	Gln	Lys	Glu	Leu	Met	Tyr	Lys	His	Ser	Asn	Gly	Ser	Tyr	Ser
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Ala	Phe	Gly	Glu	Arg	Asp	Gly	Asn	Gly	Asn	Thr	Trp	Leu	Thr	Ala	Phe
465					470					475					480
Val	Thr	Lys	Cys	Phe	Gly	Gln	Ala	Gln	Lys	Phe	Ile	Phe	Ile	Asp	Pro
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Lys	Asn	Ile	Gln	Asp	Ala	Leu	Lys	Trp	Met	Ala	Gly	Asn	Gln	Leu	Pro
			500					505					510		
Ser	Gly	Cys	Tyr	Ala	Asn	Val	Gly	Asn	Leu	Leu	His	Thr	Ala	Met	Lys
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Gly	Gly	Val	Asp	Asp	Glu	Val	Ser	Leu	Thr	Ala	Tyr	Val	Thr	Ala	Ala
	530					535					540				
Leu	Leu	Glu	Met	Gly	Lys	Asp	Val	Asp	Asp	Pro	Met	Val	Ser	Gln	Gly
545					550					555					560
Leu	Arg	Cys	Leu	Lys	Asn	Ser	Ala	Thr	Ser	Thr	Thr	Asn	Leu	Tyr	Thr
				565					570					575	
Gln	Ala	Leu	Leu	Ala	Tyr	Ile	Phe	Ser	Leu	Ala	Gly	Glu	Met	Asp	Ile
			580					585					590		
Arg	Asn	Ile	Leu	Leu	Lys	Gln	Leu	Asp	Gln	Gln	Ala	Ile	Ile	Ser	Gly
		595					600					605			
Glu	Ser	Ile	Tyr	Trp	Ser	Gln	Lys	Pro	Thr	Pro	Ser	Ser	Asn	Ala	Ser
	610					615					620				
Pro	Trp	Ser	Glu	Pro	Ala	Ala	Val	Asp	Val	Glu	Leu	Thr	Ala	Tyr	Ala
625					630					635					640

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 645 650 655
 Lys Ala Thr Ser Ile Val Ala Trp Leu Ala Lys Gln His Asn Ala Tyr
 660 665 670
 Gly Gly Phe Ser Ser Thr Gln Asp Thr Val Val Ala Leu Gln Ala Leu
 675 680 685
 Ala Lys Tyr Ala Thr Thr Ala Tyr Met Pro Ser Glu Glu Ile Asn Leu
 690 695 700
 Val Val Lys Ser Thr Glu Asn Phe Gln Arg Thr Phe Asn Ile Gln Ser
 705 710 715 720
 Val Asn Arg Leu Val Phe Gln Gln Asp Thr Leu Pro Asn Val Pro Gly
 725 730 735
 Met Tyr Thr Leu Glu Ala Ser Gly Gln Gly Cys Val Tyr Val Gln Thr
 740 745 750
 Val Leu Arg Tyr Asn Ile Leu Pro Pro Thr Asn Met Lys Thr Phe Ser
 755 760 765
 Leu Ser Val Glu Ile Gly Lys Ala Arg Cys Glu Gln Pro Thr Ser Pro
 770 775 780
 Arg Ser Leu Thr Leu Thr Ile His Thr Ser Tyr Val Gly Ser Arg Ser
 785 790 795 800
 Ser Ser Asn Met Ala Ile Val Glu Val Lys Met Leu Ser Gly Phe Ser
 805 810 815
 Pro Met Glu Gly Thr Asn Gln Leu Leu Leu Gln Gln Pro Leu Val Lys
 820 825 830
 Lys Val Glu Phe Gly Thr Asp Thr Leu Asn Ile Tyr Leu Asp Glu Leu
 835 840 845
 Ile Lys Asn Thr Gln Thr Tyr Thr Phe Thr Ile Ser Gln Ser Val Leu
 850 855 860
 Val Thr Asn Leu Lys Pro Ala Thr Ile Lys Val Tyr Asp Tyr Tyr Leu
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 Pro Asp Glu Gln Ala Thr Ile Gln Tyr Ser Asp Pro Cys Glu
 885 890

<210> 113
 <211> 95
 <212> PRT
 <213> Homo sapiens

<400> 113

Met Val Val Ile Asp Val Lys Met Leu Ser Gly Phe Thr Pro Thr Met
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Ser Ser Ile Glu Glu Leu Glu Asn Lys Gly Gln Val Met Lys Thr Glu
20 25 30

Val Lys Asn Asp His Val Leu Phe Tyr Leu Glu Asn Gly Phe Gly Arg
35 40 45

Ala Asp Ser Phe Pro Phe Ser Val Glu Gln Ser Asn Leu Val Phe Asn
50 55 60

Ile Gln Pro Ala Pro Ala Met Val Tyr Asp Tyr Tyr Glu Lys Glu Glu
65 70 75 80

Tyr Ala Leu Ala Phe Tyr Asn Ile Asp Ser Ser Ser Val Ser Gln
85 90 95

<210> 114
<211> 285
<212> DNA
<213> Homo sapiens

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tacttgaaa atggttttgg tcgagcagac agtttccctt tttctgttga gcagagcaac 180
cttgtgttca acattcagcc agccccagcc atggtctacg attattacga aaaagaagaa 240
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<210> 115
<211> 95
<212> PRT
<213> Homo sapiens

<400> 115
Met Val Val Ile Asp Val Lys Met Leu Ser Gly Phe Thr Pro Thr Met
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Ser Ser Ile Glu Glu Leu Glu Asn Lys Gly Gln Val Met Lys Thr Glu
20 25 30

Val Lys Asn Asp His Val Leu Phe Tyr Leu Glu Asn Gly Phe Gly Arg
35 40 45

Ala Asp Ser Phe Pro Phe Ser Val Glu Gln Ser Asn Leu Val Phe Asn
50 55 60

Ile Gln Pro Ala Pro Ala Met Val Tyr Asp Tyr Tyr Glu Lys Glu Glu
65 70 75 80

Tyr Ala Leu Ala Phe Tyr Asn Ile Asp Ser Ser Ser Val Ser Glu
85 90 95

<210> 116

<211> 285
 <212> DNA
 <213> Homo sapiens

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<210> 117
 <211> 92
 <212> PRT
 <213> Homo sapiens

<400> 117
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 20 25 30
 Glu Phe Gly Thr Asp Thr Leu Asn Ile Tyr Leu Asp Glu Leu Ile Lys
 35 40 45
 Asn Thr Gln Thr Tyr Thr Phe Thr Ile Ser Gln Ser Val Leu Val Thr
 50 55 60
 Asn Leu Lys Pro Ala Thr Ile Lys Val Tyr Asp Tyr Tyr Leu Pro Asp
 65 70 75 80
 Glu Gln Ala Thr Ile Gln Tyr Ser Asp Pro Cys Glu
 85 90

<210> 118
 <211> 276
 <212> DNA
 <213> Homo sapiens

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 atttacttgg atgagctcat taagaacact cagacttaca ccttcacat cagccaaagt 180
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<210> 119
 <211> 732
 <212> PRT
 <213> Homo sapiens

<400> 119
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 20 25 30
 Thr Val Pro Asp Ala Ile Thr Glu Trp Lys Ala Met Ser Phe Cys Thr
 35 40 45
 Ser Gln Ser Arg Gly Phe Gly Leu Ser Pro Thr Val Gly Leu Thr Ala
 50 55 60
 Phe Lys Pro Phe Phe Val Asp Leu Thr Leu Pro Tyr Ser Val Val Arg
 65 70 75 80
 Gly Glu Ser Phe Arg Leu Thr Ala Thr Ile Phe Asn Tyr Leu Lys Asp
 85 90 95
 Cys Ile Arg Val Gln Thr Asp Leu Ala Lys Ser His Glu Tyr Gln Leu
 100 105 110
 Glu Ser Trp Ala Asp Ser Gln Thr Ser Ser Cys Leu Cys Ala Asp Asp
 115 120 125
 Ala Lys Thr His His Trp Asn Ile Thr Ala Val Lys Leu Gly His Ile
 130 135 140
 Asn Phe Thr Ile Ser Thr Lys Ile Leu Asp Ser Asn Glu Pro Cys Gly
 145 150 155 160
 Gly Gln Lys Gly Phe Val Pro Gln Lys Gly Arg Ser Asp Thr Leu Ile
 165 170 175
 Lys Pro Val Leu Val Lys Pro Glu Gly Val Leu Val Glu Lys Thr His
 180 185 190
 Ser Ser Leu Leu Cys Pro Lys Gly Lys Val Ala Ser Glu Ser Val Ser
 195 200 205
 Leu Glu Leu Pro Val Asp Ile Val Pro Asp Ser Thr Lys Ala Tyr Val
 210 215 220
 Thr Val Leu Gly Asp Ile Met Gly Thr Ala Leu Gln Asn Leu Asp Gly
 225 230 235 240
 Leu Val Gln Met Pro Ser Gly Cys Gly Glu Gln Asn Met Val Leu Phe
 245 250 255
 Ala Pro Ile Ile Tyr Val Leu Gln Tyr Leu Glu Lys Ala Gly Leu Leu
 260 265 270
 Thr Glu Glu Ile Arg Ser Arg Ala Val Gly Phe Leu Glu Ile Gly Tyr
 275 280 285
 Gln Lys Glu Leu Met Tyr Lys His Ser Asn Gly Ser Tyr Ser Ala Phe
 290 295 300

Gly Glu Arg Asp Gly Asn Gly Asn Thr Trp Leu Thr Ala Phe Val Thr
 305 310 315 320
 Lys Cys Phe Gly Gln Ala Gln Lys Phe Ile Phe Ile Asp Pro Lys Asn
 325 330 335
 Ile Gln Asp Ala Leu Lys Trp Met Ala Gly Asn Gln Leu Pro Ser Gly
 340 345 350
 Cys Tyr Ala Asn Val Gly Asn Leu Leu His Thr Ala Met Lys Gly Gly
 355 360 365
 Val Asp Asp Glu Val Ser Leu Thr Ala Tyr Val Thr Ala Ala Leu Leu
 370 375 380
 Glu Met Gly Lys Asp Val Asp Asp Pro Met Val Ser Gln Gly Leu Arg
 385 390 395 400
 Cys Leu Lys Asn Ser Ala Thr Ser Thr Thr Asn Leu Tyr Thr Gln Ala
 405 410 415
 Leu Leu Ala Tyr Ile Phe Ser Leu Ala Gly Glu Met Asp Ile Arg Asn
 420 425 430
 Ile Leu Leu Lys Gln Leu Asp Gln Gln Ala Ile Ile Ser Gly Glu Ser
 435 440 445
 Ile Tyr Trp Ser Gln Lys Pro Thr Pro Ser Ser Asn Ala Ser Pro Trp
 450 455 460
 Ser Glu Pro Ala Ala Val Asp Val Glu Leu Thr Ala Tyr Ala Leu Leu
 465 470 475 480
 Ala Gln Leu Thr Lys Pro Ser Leu Thr Gln Lys Glu Ile Ala Lys Ala
 485 490 495
 Thr Ser Ile Val Ala Trp Leu Ala Lys Gln His Asn Ala Tyr Gly Gly
 500 505 510
 Phe Ser Ser Thr Gln Asp Thr Val Val Ala Leu Gln Ala Leu Ala Lys
 515 520 525
 Tyr Ala Thr Thr Ala Tyr Met Pro Ser Glu Glu Ile Asn Leu Val Val
 530 535 540
 Lys Ser Thr Glu Asn Phe Gln Arg Thr Phe Asn Ile Gln Ser Val Asn
 545 550 555 560
 Arg Leu Val Phe Gln Gln Asp Thr Leu Pro Asn Val Pro Gly Met Tyr
 565 570 575
 Thr Leu Glu Ala Ser Gly Gln Gly Cys Val Tyr Val Gln Thr Val Leu
 580 585 590
 Arg Tyr Asn Ile Leu Pro Pro Thr Asn Met Lys Thr Phe Ser Leu Ser

595	600	605
Val Glu Ile Gly Lys Ala Arg Cys Glu Gln Pro Thr Ser Pro Arg Ser		
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Leu Thr Leu Thr Ile His Thr Ser Tyr Val Gly Ser Arg Ser Ser Ser		
625	630	635 640
Asn Met Ala Ile Val Glu Val Lys Met Leu Ser Gly Phe Ser Pro Met		
645	650	655
Glu Gly Thr Asn Gln Leu Leu Leu Gln Gln Pro Leu Val Lys Lys Val		
660	665	670
Glu Phe Gly Thr Asp Thr Leu Asn Ile Tyr Leu Asp Glu Leu Ile Lys		
675	680	685
Asn Thr Gln Thr Tyr Thr Phe Thr Ile Ser Gln Ser Val Leu Val Thr		
690	695	700
Asn Leu Lys Pro Ala Thr Ile Lys Val Tyr Asp Tyr Tyr Leu Pro Asp		
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Glu Gln Ala Thr Ile Gln Tyr Ser Asp Pro Cys Glu		
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<210> 120
 <211> 2196
 <212> DNA
 <213> Homo sapiens

<400> 120

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cagactgacc tggctaaatc gcatgagtac cagctagaat catgggcaga ttctcagacc	360
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caggctatca tctcaggaga atccatttac tggagccaga aacctactcc atcatcgaac	1380


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Arg Gly Phe Gly Leu Ser Pro Thr Val Gly Leu Thr Ala Phe Lys Pro
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Val Gln Thr Asp Leu Ala Lys Ser His Glu Tyr Gln Leu Glu Ser Trp
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Ala Asp Ser Gln Thr Ser Ser Cys Leu Cys Ala Asp Glu Ala Lys Thr
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His His Trp Asn Ile Thr Ala Val Lys Leu Gly His Ile Asn Phe Thr
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 Thr Gln Asp Thr Val Val Ala Leu Gln Ala Leu Ala Lys Tyr Ala Thr
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